

Mineral Industry Surveys

For information, contact:

Joyce A. Ober, Sulfur Commodity Specialist
U.S. Geological Survey
983 National Center
Reston, VA 20192
Telephone: (703) 648-7717, Fax: (703) 648-7757
E-mail: jober@usgs.gov

Raymond I. Eldridge III (Data)
Telephone: (703) 648-7793
Fax: (703) 648-7792
E-mail: reldridg@usgs.gov

Internet: <http://minerals.usgs.gov/minerals>

SULFUR IN OCTOBER 2005

During the month, production of recovered elemental sulfur was 616,000 metric tons, according to the U.S. Geological Survey. October production was slightly lower than that of September 2005 and 19% lower than that of October 2004. Shipments were slightly lower than those of September 2005. Producers' ending stocks for October 2005 were 163,000 tons.

The low sulfur production was a result of the continuing effects of Hurricanes Katrina and Rita that hit the Gulf Coast area of Louisiana, Mississippi, and Texas in August and September. On October 31, 11 refineries in the affected areas were operating at reduced rates, restarting, or completely shut down (U.S. Department of Energy, 2005a§¹).

Import and export data for October 2005 were not available at the time of publication and will be published in the Sulfur in November 2005 Mineral Industry Surveys along with apparent consumption. Imports of recovered sulfur for September 2005 were estimated to be 241,000 tons; exports were 42,000 tons. Imports of sulfuric acid for September 2005 were 241,000 tons; exports were 26,000 tons.

Significant adjustments have been made to the sulfur import data. Reports from the U.S. Census Bureau appear to underreport sulfur imports, especially material from Canada. The revised figures are based on Census information and data from personal communications with industry experts.

¹References that include a section mark (§) are found in the Internet References Cited section.

Hurricane Update

Although most of the refineries affected by the hurricanes have resumed full production, a few are still experiencing difficulties resulting, at least in part, from damage caused by the hurricanes. As of December 15, 2005, BP America Inc.'s Texas City, TX, refinery; ConocoPhillips Co.'s West Lake, LA, refinery; and Lyondell-Citgo Refining LP's Houston, TX, refinery were still operating at reduced rates.

Two refineries in the New Orleans, LA, region were still completely shut down. ConocoPhillips expects to restart its Belle Chasse, LA, refinery by the end of 2005. Murphy Oil Corp. hopes to restart its Meraux, LA, refinery during the first quarter of 2006 (U.S. Department of Energy, 2005b§). Until all of these refineries resume full production capacity, recovered sulfur production from oil refineries can be expected to be less than it was during the corresponding month from one year earlier.

Internet References Cited

- U.S. Department of Energy, 2005a, Gulf Coast hurricane situation report #31, accessed December 19, 2005, at http://www.electricity.doe.gov/documents/gulfcoast_report_103105_1000.pdf.
U.S. Department of Energy, 2005b, Gulf Coast hurricane situation report #45, accessed December 19, 2005, at http://www.electricity.doe.gov/documents/gulfcoast_report_103105_1000.pdf.

TABLE 1
SALIENT SULFUR STATISTICS¹

(Thousand metric tons)

Period	Production			Shipments, all sources	Ending stocks ³
	Petroleum ²	Natural gas	Total		
2004:					
January-December	7,390	1,990	9,380	9,410	XX
January-October	6,100	1,660	7,760	7,790	XX
October	598	163	761	765	183
November	622	167	789	771	200
December	664	167	831	846	185
2005:					
January	571	169	740	740	179
February	547	156	703	695	188
March	585	169	754	755	184
April	598	157	755	756	168
May	612	166	778	766	178
June	610	158	768	765	178
July	615	159	775	774	176
August	641	170	811	813	175
September	480	147	627	624	167
October ^p	473	144	616	608	163
Total	5,730	1,600	7,330	7,300	XX

^pPreliminary. XX Not applicable.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes a small quantity from coking operations.

³Subject to inventory adjustments.

TABLE 2
U.S. IMPORTS OF SULFUR¹

(Thousand metric tons and thousand dollars)

Period	Canada		Mexico		Total, all countries ²	
	Quantity ^e	Value ³	Quantity	Value ³	Quantity ^e	Value ³
2004:						
January-December	2,010	31,300	545	28,200	2,850	76,800
January-September	1,540	24,300	408	22,600	2,220	61,300
September	160	2,460	49	2,650	240	6,850
October	160	1,740	51	2,170	220	4,370
November	150	2,650	31	1,240	186	5,700
December	160	2,660	55	2,200	226	5,400
2005:						
January	145 ^r	2,070	31	1,070	239 ^r	4,730
February	130 ^r	2,130	50	1,930	230 ^r	6,080
March	145 ^r	2,320	40	1,640	185 ^r	4,050
April	165 ^r	2,530	47	1,840	249 ^r	5,830
May	170	1,890	40	1,570	251	5,140
June	165 ^r	2,460	40	1,780	235 ^r	5,670
July	170	2,650	40	1,490	218	5,610
August	170	2,820	20	808	221	5,040
September	160	3,020	39	1,600	241	6,360
Total	1,420	21,900	347	13,700	2,070	48,500

^eEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

Sources: U.S. Census Bureau data as adjusted by U.S. Geological Survey and PentaSul North America Sulphur Service.

TABLE 3
U.S. IMPORTS OF SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Canada			Europe			Total, all countries ²		
	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³	Quantity	Sulfur content	Value ³
2004:									
January-December	1,920	628	72,500	206	67	6,670	2,390	780	86,300
January-September	1,420	463	47,900	146	48	3,630	1,700	555	55,600
September	150	49	5,080	29	9	1,090	206	67	6,480
October	176	58	6,450	19	6	946	215	70	7,480
November	160	52	5,930	11	4	289	218	71	7,500
December	140	46	4,970	30	10	655	251	82	7,510
2005:									
January	173	57	5,990	30	10	840	248	81	9,490
February	174	57	6,190	(4)	(4)	18	213	70	7,820
March	183	60	7,080	32	10	759	254	83	8,590
April	191	63	7,770	10	3	629	250	82	9,660
May	158	52	6,370	--	--	--	192	63	7,080
June	144	47	5,360	--	--	--	189	62	6,380
July	168	55	6,840	(4)	(4)	5	213	70	7,790
August	156	51	6,490	(4)	(4)	83	196	64	9,150
September	169	55	6,890	11	4	198	241	79	8,260
Total	1,520	497	59,000	83	28	2,530	2,000	654	74,200

-- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include other countries not listed.

³Declared customs valuation.

⁴Less than ½ unit.

Source: U.S. Census Bureau.

TABLE 4
U.S. EXPORTS OF SULFUR AND SULFURIC ACID¹

(Thousand metric tons and thousand dollars)

Period	Sulfur		Sulfuric acid		
	Quantity	Value ²	Quantity	Sulfur content	Value ²
2004:					
January-December	949	63,300	204	67	21,300
January-September	660	39,800	148	48	16,800
September	107	6,590	11	4	1,090
October	127	7,250	23	8	1,850
November	31	2,280	20	7	1,590
December	130	8,740	13	4	1,120
2005:					
January	22	1,740	13	4	1,590
February	72	5,040	28	9	2,230
March	41	6,270	31	10	2,270
April	94	6,010	51	17	3,280
May	16	1,850	26	8	2,560
June	56	5,920	38	12	3,630
July	64	4,520	24	8	1,920
August	71	5,330	25	8	2,600
September	42	3,470	26	8	2,810
Total	478	40,100	262	85	22,900

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Declared f.a.s. (free alongside ship) valuation.

Source: U.S. Census Bureau.

TABLE 5
U.S. CONSUMPTION OF SULFUR¹

(Thousand metric tons)

Period	Domestic sources ²	Imports ^c	Consumption
2004:			
January-December	8,470	2,850	11,300
January-September	6,380	2,220	8,600
September	650	240	890
October	638	220	858
November	740	186	926
December	716	226	942
2005:			
January	718	239 ^r	957 ^r
February	623	230 ^r	853 ^r
March	715	185 ^r	900 ^r
April	662	249 ^r	911 ^r
May	750	251	1,000
June	709	235 ^r	944 ^r
July	710	218	928
August	742	221	963
September	582	241	823
Total	6,210	2,070	8,280

^cEstimated. ^rRevised.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Calculated as shipments minus exports.

TABLE 6
RECOVERED SULFUR PRODUCED AND SHIPPED IN THE UNITED STATES,
BY PAD (PETROLEUM ADMINISTRATION FOR DEFENSE) DISTRICT¹

(Thousand metric tons)

District and source	October 2005 ^p		September 2005		January - September 2005 ²		January - September 2004 ^{r, 2}	
	Production	Shipments	Production	Shipments	Production	Shipments	Production	Shipments
PAD 1:								
Petroleum and coke	14	14	16	17	172	173	197	201
Natural gas	2	2	8	8	42	41	17	17
Total	15	15	24	24	214	214	214	218
PAD 2:								
Petroleum and coke	74	74	86	87	851	855	795	796
Natural gas	5	5	--	--	32	32	35	36
Total	79	79	86	87	883	887	830	832
PAD 3: ³								
Petroleum and coke	283	283	269	272	3,590	3,600	3,950	3,970
Natural gas	41	41	39	39	414	417	424	424
Total	324	324	308	312	4,000	4,020	4,370	4,400
PAD 4 and 5: ⁴								
Petroleum and coke	102	97	109	104	1,120	1,080	1,160	1,170
Natural gas	97	92	100 ^r	97	1,110	1,100	1,180	1,180
California	85	80	87	82	890	852	881	878
Total	199	189	208	201	2,230	2,180	2,340	2,350
Grand total	616	608	627	624	7,330	7,300	7,760	7,790

^pPreliminary. ^rRevised. -- Zero.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²May include revisions.

³Includes the U.S. Virgin Islands.

⁴Quantities produced and shipped in California included in petroleum and natural gas. California total shown for information purposes only.

TABLE 7
COMPARATIVE SULFUR AND SULFURIC ACID STATISTICS¹

(Million metric tons per year [annualized basis]
and dollars per metric ton for period shown)

	2005			2004
	October	September	Total	total
Production	7.25 ^p	7.63 ^r	8.80 ^r	9.38
Shipments	7.16 ^p	7.59 ^r	8.76 ^r	9.41
Exports of sulfur	NA	0.51	0.64	0.95
Imports of sulfur:				
Canada	NA	1.95 ^e	1.90 ^e	2.01
Mexico	NA	0.47	0.46	0.55
Total ²	NA	2.93 ^e	2.77 ^e	2.85 ^e
Export of H ₂ SO ₄	NA	0.32	0.35	0.20
Import of H ₂ SO ₄ :				
Canada	NA	2.06	2.03	1.92
Europe	NA	0.13	0.11	0.21
Total ²	NA	2.93	2.67	2.39
Consumption: ³				
Domestic sources	NA	7.08	8.30	8.35
Imports	NA	2.93 ^e	2.77 ^e	2.85 ^e
Total	NA	10.01	11.07	11.21
Sulfur export values ⁴	NA	\$83	\$84	\$67
Sulfur import values: ⁴				
Canada	NA	\$19	\$15	\$16
Mexico	NA	\$41	\$40	\$52
Average	NA	\$26	\$23	\$27
H ₂ SO ₄ export values ⁴	NA	\$108	\$87	\$105
H ₂ SO ₄ import values: ⁴				
Canada	NA	\$41	\$39	\$38
Europe	NA	\$18	\$31	\$32
Average	NA	\$34	\$37	\$36

^eEstimated. ^pPreliminary. ^rRevised. NA Not available.

¹Data are rounded to no more than three significant digits; may not add to totals shown.

²Includes other countries not listed.

³Because October trade data were not available, October consumption was not determined.

⁴Average value per ton for most recent data available.